



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/802,044	03/17/2004	Peri L. Tarr	YOR920040071US1	3471
21254 7590 09/10/2008 MCGINN INTELLECTUAL PROPERTY LAW GROUP, PLLC 8321 OLD COURTHOUSE ROAD SUITE 200 VIENNA, VA 22182-3817				
EXAMINER				
DAO, THUY CHAN				
ART UNIT		PAPER NUMBER		
2192				
MAIL DATE		DELIVERY MODE		
09/10/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/802,044

**Applicant(s)**

TARR ET AL.

**Examiner**

Thuy Dao

**Art Unit**

2192

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 July 2008.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-22 and 28-32 is/are pending in the application.  
4a) Of the above claim(s) 23-27 is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-22 and 28-32 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 17 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO/SB/808)  
Paper No(s)/Mail Date \_\_\_\_\_  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. This action is responsive to the amendment filed on July 8, 2008.
2. Claims 1-22 and 28-32 have been examined.

### **Response to Amendments**

3. In the instant amendment, claim 22 has been amended and claims 23-27 have been canceled.
4. The objection to drawings is withdrawn in view of Applicant's amendments.
5. The 35 USC §101 rejection over claims 1-19 and 31-32 is withdrawn in view of Applicant's persuasive arguments.

### **Response to Arguments**

6. Applicants' arguments have been considered. However, they are not persuasive. Applicants asserted,

"In particular, nowhere does Robillard teach or suggest 'an identifying device for identifying at least one related concern in said software system having a relationship with said at least one initial concern', as recited in claim 1 (Application at page 8, line 18-page 9, line 11). As noted above, this may allow a user to 'pull apart' a software system by extracting related concerns" (Remarks, page 10, first paragraph).

The examiner respectfully disagrees. Robillard explicitly teaches:

*a specifying device for specifying at least one initial concern in a software system* (e.g., page 4, FIG. 1, FEAT 2.1.9 – Eclipse Platform and "Concern Graph" as a software system,

top-middle panel, FEAT 2.1.9/"Concern Graph" (software system) has "Command" and/or "DrawApplication" as one initial concern;

root concern and two sub-concerns; page 4, left column: 1-35); *and*

*an identifying device for identifying at least one related concern in said software system having a relationship with said at least one initial concern* (e.g., page 4, FIG. 1, top-right window Relations (caller/callee as the relationship) between concerns and related concerns;

“DrawApplication” (initial concern) calls related concerns as “createArrowMenu()”, “createColorMenu(String, String)”, ...; and

bottom panel, “DrawApplication.createArrowMenu() calls “ChangeAttributeCommand(String, String, Object, DrawingEditor)”).

In conclusion, Applicants' arguments are not persuasive and the examiner respectfully maintains ground of the 35 USC §102 rejection over claims 1-21 and 28-32 in view of Robillard.

7. Newly amended independent claim 22: Applicants' amendments necessitated the new ground(s) of rejection presented in this Office action.

### **Claim Rejections – 35 USC § 102**

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

9. Claims 1-21 and 28-32 are rejected under 35 U.S.C. 102(a) as being anticipated by Robillard (art of record, “A Study of Program Evolution Involving Scattered Concerns”).

#### **Claim 1:**

Robillard discloses *a system for identifying concerns, comprising:*

*a specifying device for specifying at least one initial concern in a software system (e.g., page 4, FIG. 1, FEAT 2.1.9 – Eclipse Platform and “Concern Graph” as a software system,*

*top-middle panel, FEAT 2.1.9/“Concern Graph” (software system) has “Command” and/or “DrawApplication” as one initial concern;*

*root concern and two sub-concerns; page 4, left column: 1-35); and*

*an identifying device for identifying at least one related concern in said software system having a relationship with said at least one initial concern (e.g., page 4, FIG. 1, top-right window Relations (caller/callee as the relationship) between concerns and related concerns;*

*“DrawApplication” (initial concern) calls related concerns as “createArrowMenu()”, “createColorMenu(String, String)”, ...; and*

*bottom panel, “DrawApplication.createArrowMenu() calls “Change AttributeCommand(String, String, Object, DrawingEditor)”.*

**Claim 2:**

The rejection of claim 1 is incorporated. Robillard discloses *said at least one initial concern comprises a plurality of entities* (e.g., page 4, FIG. 1, initial concern has two sub-concerns; page 5, left column: 1-35).

**Claim 3:**

The rejection of claim 1 is incorporated. Robillard discloses *said relationship comprises a call to said at least one initial concern* (e.g., FIG. 1, top-right window Relations, page 4, left column: 23-40).

**Claim 4:**

The rejection of claim 1 is incorporated. Robillard discloses *said relationship comprises a call from said at least one initial concern* (e.g., FIG. 1, caller and callee in FIG. 1).

**Claim 5:**

The rejection of claim 1 is incorporated. Robillard discloses *said relationship comprises a same class that can be created by the concern, a same class that can be created from the concern, a reference to same data as the initial concern, and a union or intersection of two concerns* (e.g., page 2, right column: 59 - page 3, left column: 16).

**Claim 6:**

The rejection of claim 1 is incorporated. Robillard discloses *said specifying device comprises a query tool for inputting a query, such that said initial concern is returned as a result of said query* (e.g., page 2, left column: 3-26; page 3, right column: 55-60).

**Claim 7:**

The rejection of claim 1 is incorporated. Robillard discloses *said at least one initial concern and said at least one related concern comprise source code in said a software system* (e.g., page 2, right column: 59 – page 3, left column: 16).

**Claim 8:**

The rejection of claim 1 is incorporated. Robillard discloses *said at least one initial concern and said at least one related concern comprise other than source code in said a software system* (e.g., page 4, right column: 20-30).

**Claim 9:**

The rejection of claim 6 is incorporated. Robillard discloses *a navigating device for navigating said software system in an integrated development environment IDE* (e.g., page 3, right column: 25-39).

**Claim 10:**

The rejection of claim 6 is incorporated. Robillard discloses *said system is part of an integrated development environment (IDE) for displaying said at least one initial and at least one related concern, and navigating said software system* (e.g., page 6, section 4.3 Code Navigation).

**Claim 11:**

The rejection of claim 9 is incorporated. Robillard discloses *said navigating device comprises a graphical user interface (GUI) for using said at least one initial concern and said at least one related concern to explore said software system and construct a new software system* (e.g., page 4, FIG. 1, page 5, left column: 1-35).

**Claim 12:**

The rejection of claim 9 is incorporated. Robillard discloses *said navigating said software system comprises navigating said software system using both virtual and actual structuring of different artifacts within said software system* (e.g., page 6, left column: 5-44).

**Claim 13:**

The rejection of claim 9 is incorporated. Robillard discloses *said navigating said software system comprises using said navigating device to explore concerns and the relationships between said concerns based on a visual representation of query results* (e.g., page 6, left column: 23-55).

**Claim 14:**

The rejection of claim 9 is incorporated. Robillard discloses *said navigating device comprises a visual diagram which gives call relations between different parts of a program selected by query operators expressed as regular expressions* (e.g., page 6, section 4.3 Code Navigation).

**Claim 15:**

The rejection of claim 1 is incorporated. Robillard discloses *said identifying said at least one related concern comprises automatically generating said at least one related concern* (e.g., page 4, FIG. 1, top-left window automatically displaying concern and sub-concerns).

**Claim 16:**

The rejection of claim 1 is incorporated. Robillard discloses *said specifying device comprises at least one of a keyboard and a mouse for specifying said at least one initial concern* (e.g., page 4, left column: 23-40).

**Claim 17:**

The rejection of claim 1 is incorporated. Robillard discloses *said specifying said at least one initial concern comprises defining a query language comprising a set of operators and evaluation properties that together work to identify concerns within different artifacts that make up a software system* (e.g., page 3, right column: 41 – page 4, left column: 34).

**Claim 18:**

Robillard discloses *a concern manipulation environment (CME) comprising the system of claim 1* (e.g., page 3, right column: 25-39).

**Claim 19:**

The rejection of claim 18 is incorporated. Robillard discloses *a data structure is maintained for keeping concerns in sync with changes in a software system* (e.g., page 3, right column: 41 – page 4, left column: 34).

**Claim 20:**

Robillard discloses *a system for identifying concerns, comprising:*



*a specifying device for specifying a query against artifacts related to software development, including software, generated code, or models and information about software (e.g., page 4, FIG. 1, page 5, left column: 1-35);*

*means of displaying the results of the query (e.g., FIG. 1, page 4, left column: 23-40); and*

*means of updating the query when at least one of new artifacts are introduced, artifacts are deleted, and artifacts are changed (e.g., page 2, right column: 56 - page 3, left column: 49).*

**Claim 21:**

The rejection of claim 20 is incorporated. Robillard discloses *said results of said query comprise a concern* (e.g., page 4, right column: 20-30).

**Claim 28:**

Robillard discloses *a method of generating concerns, comprising:*

*identifying a first concern in a software system (e.g., page 4, FIG. 1, root concern; page 5, left column: 1-35);*

*examining a program using said first concern (e.g., FIG. 1, top-right and below windows, page 4, left column: 23-40);*

*identifying a second concern in said software system using said first concern and text of said program (e.g., page 4, FIG. 1, sub-concerns; top-right windows Relations; page 4, left column: 23-40); and*

*displaying and navigating concerns in an integrated development environment IDE (e.g., page 3, right column: 25 – page 4, left column: 34).*

**Claim 29:**

Robillard discloses *a programmable storage medium tangibly embodying a program of machine-readable instructions executable by a digital processing apparatus to perform a method of identifying concerns, said method comprising:*

*specifying at least one initial concern in a software system (e.g., page 4, FIG. 1, page 5, left column: 1-35); and*  
*identifying at least one related concern in said software system having a relationship with said at least one initial concern (e.g., FIG. 1, page 4, left column: 23-40).*

**Claim 30:**

Robillard discloses *a method for deploying computing infrastructure in which computer-readable code is integrated into a computing system, such that said code and said computing system combine to perform a method of identifying concerns, said method of identifying concerns comprising:*

*specifying at least one initial concern in a software system (e.g., page 4, right column: 20-30; page 5, right column: 1-26); and*  
*identifying at least one related concern in said software system having a relationship with said at least one initial concern (e.g., FIG. 1, top-right and below windows; page 4, left column: 23-40).*

**Claim 31:**

The rejection of claim 1 is incorporated. Robillard discloses *said at least one initial concern and said at least one related concern comprise a part of said software system which relates to some concept, goal, purpose or requirement (e.g., page 4, right column: 20-30; page 5, right column: 1-26).*

**Claim 32:**

The rejection of claim 1 is incorporated. Robillard discloses *said at least one initial concern and said at least one related concern comprise at least one of a feature, component, variant, user interface, instrumentation, first-failure data capture, quality of service, security, and policy (e.g., page 1, left column: 1-30).*

### **Claim Rejections – 35 USC §103**

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Robillard in view of "Capturing Concern Descriptions During Program Navigation" to Murphy et al., December 2002 (art made of record, hereafter "Murphy").

#### **Claim 22:**

Robillard discloses *a method of identifying concerns, comprising:*

*specifying at least one initial concern in a software system (e.g., page 4, FIG. 1, FEAT 2.1.9 – Eclipse Platform including "Concern Graph" as a software system; in top-middle panel, FEAT 2.1.9/"Concern Graph" (software system) has "Command" and/or "DrawApplication" as one initial concern; "root concern and two sub-concerns"; page 4, left column: 1-35);*

*identifying at least one related concern in said software system having a relationship with said at least one initial concern (e.g., page 4, FIG. 1, top-right window Relations (caller/callee as the relationship) between concerns and related concerns; "DrawApplication" (initial concern) calls related concerns as "createArrowMenu()", "createColorMenu(String, String)", ...; and bottom panel, "DrawApplication.createArrowMenu() calls "Change AttributeCommand(String, String, Object, DrawingEditor)" );*

*navigating said software system in Eclipse Platform (e.g., page 3),*

*wherein said relationship comprises at least one of a call to said at least one initial concern and a call from said at least one initial concern (e.g., page 4,*

Figure 1, initial concern calls related concerns - see top-right panel "Relations" and source code in bottom panel),

*wherein said specifying said at least one initial concern comprises using a query tool for inputting a query, such that said initial concern is returned as a result of said query (e.g., Figure 1, in top-right panel "Concern Graph", using mouse to double-click on "Tutorial" to query initial concerns such as "Command", "DrawApplet", and/or "DrawApplication"),*

*wherein said identifying said at least one related concern comprises automatically generating said at least one related concern (e.g., page 4, Figure 1, FEAT 2.1.9 automatically generates/displays related concerns of the initial concern "Command" or related concerns of other initial concern "DrawApplication" such as "createArrowMenu()", "createColorMenu(String, String)", ...), and*

*wherein said at least one initial concern comprises at least one of an extensional concern (e.g., initial concern "Command" as an external concern, which includes pieces of software commands "ChangeAttributeCommand", "DrawApplet", "DrawApplication") and*

*an intensional concern (e.g., page 4, Figure 1, initial concern "DrawApplication" as an intensional concern, which includes methods with prefix "create").*

Robillard discloses FEAT 2.1.9 embedded/plugged-in in Eclipse Platform (page 4, Figure 1) but does not explicitly disclose *Eclipse Platform as an integrated development environment (IDE)*.

However, in an analogous art, Murphy further discloses *Eclipse Platform as an integrated development environment (IDE)* (e.g., pp. 2-3, section "Overview of the FEAT Tool").

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine Murphy's teaching into Robillard's teaching. One would have been motivated to do so to evolve the earlier tool into a plugin for the Eclipse Platform IDE as suggested by Murphy (e.g., page 2, section 4).

### **Conclusion**

12. Applicants' amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

13. Any inquiry concerning this communication should be directed to examiner Thuy Dao (Twee), whose telephone/fax numbers are (571) 272 8570 and (571) 273 8570, respectively. The examiner can normally be reached on every Tuesday, Thursday, and Friday from 6:00AM to 6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam, can be reached at (571) 272 3695.

The fax phone number for the organization where this application or proceeding is assigned is (571) 273 8300.

Any inquiry of a general nature of relating to the status of this application or proceeding should be directed to the TC 2100 Group receptionist whose telephone number is (571) 272 2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR

Art Unit: 2192

only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Thuy Dao/

Examiner, Art Unit 2192

/Tuan Q. Dam/

Supervisory Patent Examiner, Art Unit 2192